

**Appl. No.** : **10/624, 728**  
**Filed** : **July 21, 2003**

### **LISTING OF CLAIMS**

1. (Previously Presented) A photoresist ashing system comprising two processing chambers configured for alternate operation, a single pump in fluid communication with the two chambers, and a throttle valve simultaneously downstream of both chambers and upstream of the pump, the pump being configured to perform both pumpdown and process pumping of the two chambers and the throttle valve configured to regulate the pressure in both of the chambers.
2. (Canceled)
3. (Original) The system of Claim 1, wherein the single pump is a dry pump.
4. (Previously Presented) The system of Claim 1, further comprising only one isolation valve between the pump and a first one of the chambers.
5. (Previously Presented) The system of Claim 4, further comprising only one isolation valve between the pump and a second one of the chambers.
6. (Previously Presented) The system of Claim 1, wherein the chambers are adjacent to each other.
7. (Previously Presented) The system of Claim 1, wherein each chamber comprises a remote plasma applicator configured to be powered by a common power source switchable between the two chambers.
8. (Previously Presented) The system of Claim 7, wherein the power source is a microwave power source.
9. (Previously Presented) The system of Claim 7, wherein the power source is a common radio frequency power source synchronously multiplexed between the two processing chambers.
10. (Previously Presented) The system of Claim 1, wherein the processing-chambers are each configured to receive a single silicon wafer at a time, and the processing-chambers are each downstream of a plasma applicator.

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11. (Previously Presented) The system of Claim 1, wherein the processing chambers are each configured to receive a single silicon wafer at a time, and the processing chambers each comprise an in situ plasma reactor.

12. (Previously Presented) A dual chamber processing system for continuously processing a plurality of workpieces comprising:

a common power source switchable between a first plasma applicator of a first chamber and a second plasma applicator of a second chamber,

the first chamber for processing a second workpiece in a vacuum to completion therein when the power source is applied thereto and switched ON,

a robot configured to remove at substantially atmospheric pressure a first workpiece from the second chamber after processing the first workpiece, the robot configured to reload the second chamber with a third workpiece to be processed while the second workpiece is being processed in the first chamber, the robot configured to remove at substantially atmospheric pressure the second workpiece from the first chamber after processing the first workpiece, the robot configured to reload the first chamber with a fourth workpiece to be processed while the third workpiece is being processed in the second chamber,

the second chamber for processing the third workpiece in a vacuum to completion therein when the power source is applied to the second plasma applicator and switched ON,

exactly one pump adapted to be in fluid communication with the first and second chambers, the pump being configured to perform both process pumping and pump-down pumping of both chambers; and

a computer configured to repeatedly synchronously and alternately control the power source application, the robot movement, the chamber processing, and the pump, the computer configured to control the pump and the robot to effect pump-down and subsequent process pumping of one of the chambers during simultaneous venting, workpiece removal and workpiece reloading of the other of the chambers, such that said pump-down pumping of one of the chambers and said venting of the other of the

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chambers begin at substantially the same time, and the computer being configured to open the pump to fluid communication with only one of the chambers at a time.

13-17. (Canceled)

18. (Previously Presented) The system of Claim 12, wherein the single pump is a dry pump.

19. (Previously Presented) The system of Claim 12, wherein the system further comprises only one isolation valve between the pump and the first chamber.

20. (Previously Presented) The system of Claim 19, wherein the system further comprises only one isolation valve between the pump and the second chamber.

21. (Previously Presented) The system of Claim 12, wherein the first chamber and the second chamber are adjacent to each other.

22. (Previously Presented) The system of Claim 12, wherein the power source is a microwave power source.

23. (Previously Presented) The system of Claim 12, wherein the power source is a common radio frequency power source synchronously multiplexed between the two processing chambers.

24. (Previously Presented) The system of Claim 12, wherein the chambers are each configured to receive a single silicon wafer at a time, and the chambers are each downstream of a plasma reactor.

25. (Previously Presented) The system of Claim 12, wherein the chambers are each configured to receive a single silicon wafer at a time, and the chambers each comprise an in situ plasma reactor.